

Measles Update, September 2008

1. Measles in the United States (U.S.) – An Update 2. New Immunization Guidelines for Health Care Workers

Nationwide, 131 cases of measles have occurred in 15 states and the District of Columbia since January 2008. This is the highest number reported in the U.S. for the same time period since 1996. To date, none of the cases have occurred in Massachusetts (MA).

Ninety-one percent of US cases occurred among those who were either **unvaccinated** or had unknown vaccination status. Twenty-one percent were in infants ≤ 15 months of age and 60% were in children 16 months – 19 years. Of those who were unvaccinated or had unknown status and were eligible for vaccine, 66% were not vaccinated due to **religious or philosophical beliefs**. Eighty-nine percent of the measles cases were **importation-associated**, mostly from Europe. For complete information, see <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5733a1.htm>.

This outbreak has occurred due to a **failure** to comply with the current recommendation for measles vaccination. It serves as a reminder that measles can be re-introduced into the U.S. via returning travelers and visitors, and can result in outbreaks among the unvaccinated. It also underscores the need to ensure all individuals, particularly **health care workers** and **travelers**, have adequate proof of immunity to measles, mumps and rubella.

MA law requires immunity to measles, mumps and rubella (MMR) for school attendance. The law allows only a medical or religious exemption for the MMR requirement; personal or philosophic exemptions are not allowed. Currently, <1% of students in the state claim medical or religious exemptions. In accordance with Department regulations, if there is a case of measles, all students and staff who are susceptible (without evidence of immunity), including those with exemptions, will need to be excluded days 5-21 after exposure.

MDPH Recommendations for Health Care Providers

- **Review the immunization status of all their patients.** Ensure that all patients are up-to-date with their measles, mumps, rubella (MMR) immunizations, including:
 - **Those with exemptions.** Re-evaluate the status of those with medical or religious **exemptions** and offer vaccine, if indicated or appropriate.
 - **Travelers.** Vaccinate those ≥ 6 months of age traveling abroad, including to Europe and other developed countries, unless they have other acceptable documented proof of immunity
- **Review the immunization status of all staff now!** Ensure all health care staff meet the latest, more stringent criteria for proof of immunity for measles, mumps and rubella (see below).
- **Have a high index of suspicion.** Carefully assess all patients presenting with febrile rash illnesses and report such suspect cases to your local board of health and the MDPH immunization program. (617-983-6800)
- **Institute control measures promptly.** This is essential to prevent spread of disease and to limit disruption at your facility due to vaccination activities, exclusion of staff, etc.

New!

Routine Vaccination Recommendations

1. **Children.** All children ≥ 12 months of age should receive their 1st dose of measles, mumps and rubella (MMR) at the 12-15 month routine health care visit, and every effort made to identify and vaccinate children who are not up-to date. All school-aged children should have 2 doses of MMR vaccine.

2. **Adults.** All adults should have acceptable proof of immunity to measles (see box below). Certain groups of adults at high risk should have 2 doses of MMR, such as international travelers, health care workers and college students.

Acceptable Evidence of Immunity

1. Born in the U.S. before January 1, 1957.
Exceptions: health care workers and international travelers, where year of birth does **not** constitute acceptable proof of immunity.
 - If individuals in these groups do not have serologic proof of immunity, they should have 1 dose of MMR vaccine.
2. Two doses of measles-containing vaccine, given at least 4 weeks apart and beginning at ≥ 12 months of age, and the 2nd dose given prior to or within 72 hours of exposure. (In health care settings, vaccination after exposure will **not** always guarantee avoiding exclusion. See next page); or
3. Serologic proof of immunity.

Note: Physician-diagnosed disease is **not** acceptable for any group.

Recommendations for International Travelers

New! Given the number of measles cases occurring worldwide, and the recent increase in measles cases in the U.S. due to importation, it is important that international travelers, including travelers to Europe and other developed countries, are protected.

- **Infants.** All children 6-11 months of age traveling abroad should receive one dose of MMR.
- **Other age groups.** All others, including children ≥ 12 months of age, adolescents and adults without serologic proof of immunity, should receive 2 doses of MMR vaccine (separated by ≥ 28 days). For those born before 1957, 1 dose of MMR is recommended.

Recommendations for Health Care Workers

New! Recently, medical settings have been the source of exposure for both patients and staff. While being born in the U.S. before 1957 is adequate proof of immunity for the general public, it is **not** acceptable for those working in the health care setting. Unless they have serologic proof of immunity:

- **Health care workers born before 1957.** Should have at least 1 dose of MMR.
- **Health care workers born in or after 1957.** Need 2 doses of MMR.

It is important to ensure all who work in health care settings are protected **prior** to an exposure, as vaccination of susceptible workers within 72 hours after exposure will **no longer** be acceptable in most settings -- and this individual will be excluded from work days 5 to 21 after exposure.

Diagnosis

Measles should be suspected in all individuals presenting with febrile rash illness. It is extremely important to obtain the correct specimens for laboratory confirmation for suspect cases of measles

- **Measles IgM Antibody Test.** Obtain 2 mL of serum when the patient presents for medical evaluation, regardless of time since rash onset. (However, if it is < 3 days since rash onset, repeat testing may be necessary.)
- **Viral Isolation.** Throat (oropharyngeal or nasopharyngeal) swabs and urine are also needed for viral isolation and the opportunity to determine the origin of the virus.

Please do **not** send specimens to a commercial laboratory, as there can be problems with sensitivity and specificity. It is important to contact an MDPH epidemiologist (available 24 hours a day, 7 days a week) at 617-983-6800 for technical guidance on specimen collection, necessary submission forms and to arrange for transportation by courier to the MDPH laboratory for testing.

Initial Management of Patients with Febrile Rash Illness

- Measles is infectious for 4 days before through 4 days after rash onset (counting the day of rash onset as day zero).
- Assess and screen all patients with febrile rash illness, either prior to or immediately on arrival at the intake area.
- Escort febrile, rash-illness patients to a separate waiting area or place immediately in a private room, preferably at negative pressure to other patient care areas.
- Both patients and staff should wear appropriate masks/respirators (masks for patients to prevent generation of droplets, and respirators for staff, if possible, to filter airborne particles).
- If not admitted, maintain standard and airborne infection isolation (including while patient is exiting the facility; e.g., separate exit). Patients should receive instructions to remain in isolation at home through four days after rash onset.
- Measles virus can remain suspended in the air for up to 2 hours. Therefore, we recommend that the room occupied by a suspect case **not** be used for 2 hours following the case's exit.

Other Control Measures

- **Identify** all contacts among patients and staff exposed to the suspect case. This includes: 1) patients and families in the waiting and examination rooms at any time while the index case was present and up to 2 hours afterward; 2) all staff both with and without direct patient contact; 3) due to the airborne route of measles transmission, everyone at the entire facility may be considered exposed.
- **Assess** the exposed for acceptable evidence of immunity as outlined in the table above.
- **Vaccinate** all susceptibles.
- **Measles vaccine given within 72 hours of exposure may prevent disease**
- **Exclude** all susceptible staff from work on days 5-21 after exposure (If the case is confirmed, even those staff who were vaccinated within 72 hours after exposure should be excluded).
- **Surveillance** for early identification of secondary cases for 2 incubation periods (28 days)

Similar control measures are also needed in schools and other settings.

Please see the measles chapter in the MDPH document *Guide to Surveillance and Reporting* which can be found on the department's website <http://www.mass.gov/dph>

Reporting Please report all cases or suspect cases of measles to your local board of health and to the MDPH Division of Epidemiology and Immunization at 617-983-6800.

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